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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/057,502	04/09/1998	EIICHI SANO	009683-329	6476

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EXAMINER

NGUYEN, LAM S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 01/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/057,502

Applicant(s)

SANO ET AL.

Examiner

LAM S NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-11, 13-18 and 20-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-11, 13, 15-18, 20, 22-27 and 29-33 is/are rejected.
- 7) ☒ Claim(s) 6, 14, 21 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3, 5, 7-11, 13, 15-18, 20, 22-27, 29-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Koitabashi et al. (US 6325492).

Koitabashi et al. disclose an ink jet printer ejecting a plurality of kinds of ink droplets of different sizes from a single nozzle depending upon data to be printed (column 27, line 5-17: ink ejection in the vary amount mode is performed through the same ejection opening and the ejection amount can be varied during successive ejection), thereby forming an image on a prescribed recording medium using dots of sizes corresponding to the sizes of the ink droplets (FIG. 43), comprising:

a smoother for performing a smoothing process using a dot (FIG. 43: the shaded dots) smaller than a dot forming said image (FIG. 43: the blank dots), wherein said smaller dot and said image forming dot are ejected from said single nozzle (column 27, line 5-17: ink ejection in the vary amount mode is performed through the same ejection opening and the ejection amount can be varied during successive ejection) ; and

a controller for controlling said smoother to print a center of said smaller size dot

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close to a center of said image forming dots at a distance smaller than the pitch of the image forming dots (FIG. 43, column 25, line 45 to column 26, line 17).

Referring to claims 2, 10, 25, 32: wherein said controller controls the position of printing the smaller dot by controlling the timing of printing the smaller dot (column 27, line 24-41).

Referring to claims 3, 11, 18, 26: wherein in said timing control, the timing of applying signal voltage to print said smaller dot is controlled (column 27, line 64-67).

Referring to claims 5, 13, 20, 27: wherein said controller controls the printing position of the smaller dot by changing the speed of ejection of an ink droplet forming said smaller dot (column 27, line 10-28).

Referring to claims 7, 15, 22, 29, 33: wherein said ink jet printer comprising an ink jet head ejecting said ink droplet, said ink jet head being moved at a prescribed speed in a prescribed direction, and said controller controls the printing position of said smaller dot based on the ejection speed of the ink droplet and said scanning speed (column 27, line 24-30).

Referring to claims 8, 16: further comprising determination means for determining a direction of the printing position of said smaller dot, said controller controlling the printing position of said smaller dot according to the determination (column 26, line 6-17).

Referring to claim 9: a controller for changing a distance between the centers of adjacent dots thereby to change the printing position of the dot based on the size of the dot in printing said plurality of kinds of dots (FIG. 43).

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Referring to claims 17, 23: determining whether or not control of the printing position of a dot is necessary (FIG. 43) and controlling the timing of printing the dot if it is determined necessary (FIG. 46B).

Referring to claims 24, 30, 31: a smoother for smoothing the image by arranging the smoothing dots around edges of the image forming dots (FIG. 43), wherein, on each scanning line, a distance between a center of at least one of the smoothing dots and a center of one of the image forming dots adjacent to said one smoothing dot is shorter than a distance between the centers of adjacent image forming dots (FIG. 43).

Allowable Subject Matter

2. Claims 6, 14, 21, 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The most pertinent art Koitabashi et al. (US 6325492) fails to disclose wherein said speed of ejection of said ink droplet is changed by changing a change degree in signal voltage to print said dot. Therefore, the claimed invention is not disclosed by the cited prior art.

Response to Arguments

Applicant's arguments filed 11/21/2003 have been fully considered but they are not persuasive.

Regarding to the argument on page 11: The applicants argued that Koitabashi et al. does not disclose the smaller dots and the dot forming said image are ejected from said single nozzle. The examiner does not agree. Even though Koitabashi et al. disclose the ejection of the different size dots from different nozzles during smoothing, Koitabashi et al. also disclose the

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ejection of different size dots from the same nozzle by applying a driving voltage to different heaters corresponding to one nozzle to cause the ejection of a different amount of ink as discussed above (column 27, line 5-17). Therefore, Koitabashi et al. disclose the above limitation.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (703)305-3342. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (703)308-4896. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and (703)305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LN

January 21, 2004

Hai Pham
HAI PHAM
PRIMARY EXAMINER